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Lueke et al.

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(54) **METHOD FOR SUPPORTING A
TRAFFIC-LIGHT-SEQUENCE ASSISTANT OF
A VEHICLE, SAID ASSISTANT DETECTING
TRAFFIC LIGHTS**

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(58) **Field of Classification Search**
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See application file for complete search history.

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(56) **References Cited**

U.S. PATENT DOCUMENTS

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8,134,480 B2 * 3/2012 Onome G08G 1/096716
340/905
8,638,990 B2 * 1/2014 Kudo G06K 9/2054
382/104

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FOREIGN PATENT DOCUMENTS

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DE 100 40 123 2/2002
DE 102008020728 10/2009

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(Continued)

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OTHER PUBLICATIONS

§ 371 (c)(1),
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International Search Report of the International Searching Authority
for International Application PCT/DE2013/200241, mailed Feb. 3,
2014, 3 pages, European Patent Office, HV Rijswijk, Netherlands.

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(57) **ABSTRACT**

(30) **Foreign Application Priority Data**

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A method supports a vehicle's traffic-light-sequence assistant system that detects traffic light sequences of a traffic light (11) with a camera (1). According to the method, when the traffic light (11) is detected in the field of view (1a) of the camera (1), a length or an end stopping point (L) of a driving path (W) toward the traffic light (11) is determined by a control unit (3), such that the traffic light will remain within view of the camera when the vehicle drives the determined length along the driving path to the end stopping point, and a control signal (St) concerning the determined length (L) or the end stopping point of the driving path (W) is outputted.

20 Claims, 1 Drawing Sheet

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